

**Water, water everywhere and
not a drop to drink?**

Water Pollution



Would you like to go on holiday there?

- What would you do there? Swim? Dive?



What does this picture remind you of?



What is water pollution?

Water pollution is the contamination of water bodies (e.g. lakes, rivers, oceans, aquifers and groundwater), very often by human activities. Water pollution is the second most imperative environmental concern along with air pollution. **Any change or modification in the physical, chemical and biological properties of water that will have a detrimental consequence on living things is water pollution.**

Water pollution affects drinking water, rivers, lakes and oceans all over the world. In many developing countries, it is usually a leading cause of death, by people drinking from polluted water sources. More to this, water pollution affects not only individual living species, but also populations and entire functioning ecosystems that exist in the waters.

Would you like to go on holiday here?

- Why not?



Types of water pollution

1. Nutrients Pollution

Some wastewater, fertilizers and sewage contain high levels of nutrients. If they end up in water bodies, they encourage algae and weed growth in the water. This will make the water undrinkable, and even clog filters. Too much algae will also use up all the oxygen in the water, and other water organisms in the water will die out of oxygen from starvation.



- **2. Microbiological** In many communities in the world, people drink untreated water (straight from a river or stream). Sometimes there is natural pollution caused by microorganisms like viruses, bacteria and protozoa. This natural pollution can cause fishes and other water life to die. They can also cause serious illness to humans who drink from such waters.



3. Suspended Matter Some pollutants (substances, particles and chemicals) do not easily dissolve in water. This kind of material is called particulate matter. Some suspended pollutants later settle under the water body. This can harm and even kill aquatic life that live at the floor of water bodies.



- **4. Chemical Water Pollution** Many industries and farmers work with chemicals that end up in water. These include chemicals that are used to control weeds, insects and pests. Metals and solvents from industries can pollute water bodies. These are poisonous to many forms of aquatic life and may slow their development, make them infertile and kill them.



5. Oil Spillage Oil spills usually have only a localized effect on wildlife but can spread for miles. The oil can cause the death of many fish and stick to the feathers of seabirds causing them to lose the ability to fly. Do you remember the BP Oil spill in 2010? Over 1,000 animals (birds, turtles, mammals) were reported dead, including many already on the endangered species list. Of the animals affected by the spill that are still alive only about 6% have been reported cleaned, but many biologists and other scientists predict they will die too from the stress caused by the pollution.



Identify the following type of pollution you see in the following pictures.



Oil spillage



Nutrients Pollution



Oil Spillage



Suspended matter



Suspended matter, chemicals



Oil Spillage



Chemical pollution



- <https://www.youtube.com/watch?v=diU70KshcjA>
- The text is adapted and taken from:
<http://eschooltoday.com/pollution/water-pollution/what-is-water-pollution.html>

- This reading activity is a stimuli for speaking rather than reading for language focus (vocab, grammar)
- Slide 3: You can discuss with children if it is suitable for Ariel and why
- Slide 4: Introduce them to:
„sweeping something under the carpet. Ask Qs: What does it mean? Is the problem gone or hidden? Is it truly clear? Who has to deal with the problem?
(younger generation, our children)
- Between Slides 5 and 6 divide into small groups and let them discuss all possible ways how people pollute water. Then ask about their ideas and write it on a blackboard (if you have available while the presentation is on.)
- Slides 7 – 11 Let Ss read the text silently for themselves, then ask someone to read it out loud – correct pronunciation mistakes if you think it is necessary. As a while-reading activity, you can ask them to think whether the particular type of pollution is more dangerous for people or animals.

- Slide 7: Let one S come to board and show you „algae“ on the picture.
- Slide 8: Ask Ss, if they know any particular viruses or bacteria that „lives“ in water. E.g. Cholera
- Slide 9: Ask Ss examples of suspended matter.
- Slide 10: What chemicals we put in the water? Ask Ss if they are aware that shampoos, soaps, hair dyes, conditioners pollute water.
- After Slide 12: You can discuss with your class which type of pollution they think is most dangerous. You can match the types of pollution in the ppt with those on the blackboard. You can also discuss other types of pollution (surface and ground water pollution, oxygen depleting, excrements,...)
- Slide 13 – Suspended matter – plastics
- Slide 17 – Did you know sea turtles eat jelly fish? Plastic bags remind them of jelly fish, turtles eat it and die
- Slide 18 – Tyres release toxins and chemicals into the water
- Slide 21 – Link to: After Ever After (Disney Parody) by Jon Cozart. Play just the first part, let them listen (the melody is soothing – very good after this topic, but the lyrics are still serious. I will prepare another lesson plan with the song.
- You can add your own activities, if you think of something extra, please, let me know in the private message (TheKacabi on Busyteacher.org)